REMARKS

Claims 1, 3-10, 12-13, 15-21, 23-31, 42 and 44-48 were pending in the application prior to the present amendment. Claims 26 and 46 are herein cancelled. Claims 1, 3, 6, 10, 12-13, 17-21, 23-24, 31, 42, 44 and 48 are herein amended. Thus, claims 1, 3-10, 12-13, 15-21, 23-25, 27-31, 42, 44-45 and 47-48 will be pending in the application after entry of the present amendment.

Art-Based Rejections

Claims 1, 3-7, 9-10, 12-13, 15-21, 23-25, 27-31, 42-44 and 46 were rejected under 35 U.S.C. Section 103(a) based on various combinations of:

TERAS Evaluation Module User Guide (hereinafter "TERAS");

Netemeyer et al. (U.S. Pub 2002/0169785);

Floris et al. (Integrated Scenario and Probabilistic Analysis for Asset Decision Support, Petroleum Geoscience, Vol. 8 2002, pages 1-6);

Joshi et al. ("Techno--Economic and Risk Evaluation of a Thermal Recovery Project");

Curtis (2002/0053430);

material the Examiner deems to be "Applicant's admitted prior art"; and

Ortoleva (U.S. Pub 2002/0013687).

Applicant respectfully disagrees with these rejections. However, in order to expedite the case towards an allowance, Applicant has amended independent claims 1, 10, 13, 17, 19, 21, 31, 42 and 48.

Claim 1 recites, in pertinent part, "receiving user input *selecting one or more simulation engines* corresponding to a value chain." This feature is not suggested in any of the cited references. TERAS discloses "a tool for creating economic evaluations for petroleum projects." (Page 3, Overview Section, first paragraph). The tool allows a user to "build detailed economic evaluations, or models, for a proposed project and then test those models against simulated, real-world situations." (Page 3, Overview section, first

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paragraph). However, TERAS never suggests the notion of "selecting one or more simulation engines" to be used as part of a computer-implemented method as claimed.

Netemeyer discloses a system "for simulating transport phenomena" having "a facility network architecture." (Title, and Abstract lines 1-2). At paragraphs 26 and 67, Netemeyer teaches:

> The reservoir simulation system preferably uses facility management logic ("FML") with a reservoir simulator. The FML provides a view of the logic that can be readily used by a user of the simulation method. Use of the FML is flexible and can be integrated with a reservoir simulator. The FML comprises three elements: (1) a Logic Diagram interface, (2) a generator of C++ code (an industry standard programming language) from the Logic Diagram, and (3) a specific software design to integrate the code with the *reservoir simulator* itself. (Emphasis added).

> [0067] Facility Management Logic ("FML") is a programming system designed for the operational control of a physical system such as wells and associated surface facilities within a reservoir simulation system. The FML comprises three elements: (1) a logic interface, referred to herein as "Logic Diagram ", (2) a generator of C++ code (an industry standard programming language) from the Logic Diagram, and (3) a specific software design to integrate the FML code with the reservoir simulator itself. (Emphasis added).

These paragraphs mention the use of a "reservoir simulator." However, Netemeyer never suggests, "receiving user input selecting" a "reservoir simulator" or any other kind of simulator. Instead, it appears that Netemeyer teaches the use of a single fixed reservoir simulator that is not subject to being "select[ed]" by a user.

Thus, claim 1 and its dependents are patentably distinguished over the cited references at least for the reasons given above. Claim 10 recites a feature similar to that quoted above with regard to claim 1. Thus, claim 10 and its dependent claim are believed to be patentably distinguished over the cited references at least for reasons similar to those given above.

Claim 42 recites, in pertinent part:

"generating instantiated values of the planning variables", and

"resolving uncertain event dates in one or more schedules included in the set of models based on a first subset of the instantiated values."

This combination of features is not suggested in any of the cited references or any union of the cited references. TERAS variously discloses: "setting start and effective dates" for an evaluation (page 28, item "1" in enumerated list); "creat[ing] a command that represents a fixed oil price to start on January 1, 2001 … and a fixed gas price to start on the same date" (page 32, last paragraph); and "enter[ing]" a "start date" for an "action" using a "keyword" (page 33, last bullet of bulleted list). However, TERAS never suggests an "*uncertain* event date[]" in a schedule. Thus, TERAS has nothing to teach or suggest regarding "*resolving* uncertain event dates."

Netemeyer never discloses anything even remotely related to "uncertain event dates" or "schedules". Indeed, the terms "date" and "schedule" never occur in the specification of Netemeyer.

Thus, claim 42 and its dependents are patentably distinguished over the cited references at least for the reasons given above. Claims 13 and 48 each recite a feature similar to that quoted above with regard to claim 42. Thus, these claims and their dependents are believed to be patentably distinguished over the cited references at least for reasons similar to those given above.

Claim 19 recites, in pertinent part, "automatically executing a well-perforator program on one or more well plans included in the instantiated models in order to determine perforation locations for the one or more well plans." This feature is not suggested in any of the cited references. Regarding a similar feature in claim 48, the Examiner points to page 2, lines 5-10 of Applicant's specification and argues that the "perforat[ion]" mentioned in that passage anticipates the notion of "determining well perforation locations for wells" as part of a computational method. (Office Action, page 16, first paragraph). Applicant respectfully disagrees. The cited passage reads as follows:

> The establishment of the wells and facilities of the petroleum production system involves a series of capital investments. The establishment of a well may involve investments to drill, perforate and complete the well. The establishment of a facility may involve a collection of processes such as engineering design, detailed design, construction, transportation, installation, conformance testing, etc. Thus, each facility has a capital investment profile that is determined in part by the time duration and

complexity of the various establishment processes. (Emphasis added).

While this passage states that the "establishment" of a well may involve "perforat[ing]" the well, it does not suggest the use of any sort of "program" to determine "perforation locations", or "automatically executing" such a program as part of a "computer-implemented method" as claimed.

Thus, claim 19 and its dependents are patentably distinguished over the cited references at least for the reasons given above. Claims 17, 21 and 48 each recite a feature similar to that quoted above with regard to claim 19. Thus, these claims and their dependents are believed to be patentably distinguished over the cited references at least for reasons similar to those given above.

Claim 31 recites, in pertinent part, "storing" "the modifications to the first set of models and planning variables in a memory medium." This feature is not suggested in any of the cited references. The Examiner argues that Floris' scenario tree anticipates the formerly recited version of this feature. Floris discloses use of a "scenario tree approach to earth modeling." (Page 2, Figure 1 and its caption). Each node of the "scenario tree" has two or more alternative scenarios with associated "probabilities". (Page 2, right column, lines 1-2). However, Floris never suggests storing "*modifications* to [a] set of models and planning variables" as claimed, and the "scenario tree" in no way suggests such "storing." The branches underneath each node of the scenario tree correspond to possible *alternative* realizations, not "modifications" specified as part of "assembling a second case" as claimed.

Furthermore, none of the cited references suggests, "displaying an indication of the first case, the second case, and <u>a parent child relationship between the first case and second case</u>" as recited in claim 31. The Examiner argues that Floris' Figure 1 "shows a graph displaying parent child relationship among cases." Applicant respectfully disagrees. While Floris' scenario tree has branches that connect between nodes, none of the branches represent a parent-child relationship *between cases* as claimed. Recall that the claimed "first case" comprises:

> a first set of models and planning variables for components of a value chain, in response to first user input, wherein the first set of models and planning variables includes at least one geocellular reservoir model.

None of the nodes in Floris' scenario tree can be properly interpreted as representing a "case" as claimed.

Finally, none of the cited references suggest "conditionally displaying the modifications to the first set of models and planning variables in response to a user request" as recited in claim 31. The Examiner argues that Floris "scenario tree" anticipates the formerly recited version of this feature. Applicant respectfully disagrees. None of the nodes or branches of Floris' scenario tree represent "modifications to [a] set of models and planning variables." The branches underneath any given node of the scenario tree correspond to alternative choices for the category represented by that node. (Page 2, right column, first paragraph). (Note also the probability values underneath each node of the scenario tree add up to 100%.) Thus, Floris has nothing to do with "conditionally displaying [] modifications" as claimed.

Thus, claim 31 is patentably distinguished over the cited references at least for the reasons given above.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above-referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. The Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Meyertons, Hood, Kivlin, Kowert & Goetzel P.C., Deposit Account No. 50-1505/5460-01101/JCH.

Respectfully submitted,

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